

d) **Remarks**

This Amendment After Final is in response to the Final Office Action mailed April 23, 2003, wherein claims 1-7, 17 and 18 were rejected. The specific rejections to the claims are addressed in the following paragraphs, which are provided with paragraph numbers and headings corresponding to the rejections as they were presented in the Final Office Action.

Claim Rejections – 35 USC §112

1. In the Final Office Action claims 17 and 18 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out an distinctly claim the subject matter which applicant regards as the invention. The objected to language has been removed.

Claim Rejections – 35 USC §102

3. In the Final Office Action claims 1-3, and 7 were rejected under 35 U.S.C. § 102(b) as being anticipated by GB 1010318. Anticipation requires that each and every element of the claimed invention is found in the cited reference. A close examination of the claims as amended and the cited reference is needed to evaluate anticipation.

First of all, the feature of the diamond blade having a rim type cutting tip according to the present invention is to easily and quickly grind or cut workpieces by (a) forming one or more cutting grooves in the workpieces by the diamond layers, (b) crushing portions between the cutting grooves in a relatively large-sized chips by the non-diamond portions, and (c) discharging the chips outside.

For this, as shown in Figures 4 and 5, the diamond blades according to the present invention comprises, a wheel body 32 and a rim type cutting tip 33 circumferentially and fixedly onto the wheel body 32. Here, the rim type cutting tip 33 comprises (1) the diamond layers 38 and 38' including diamond particles 39 which are longitudinally disposed parallel with the rotation direction of the wheel body 32 and (2) a non-diamond portion 35 between the diamond layers 38 and 38'. The non-diamond portion 35 does not include the diamond particles.

When the diamond blade begins to cut or grind the workpieces, the diamond layers form microscopic linear cutting grooves 37' and 37'' with the workpieces, as shown in Figure 5, thereby forming protruded portion 40 between the microscopic linear cutting grooves 37' and 37''. Then the non-diamond portion 35 cuts or grinds the protruded portion 40 by a small friction or impact force thereof with a relatively larger size.

Accordingly, the diamond blade according to the present invention can cut or grind easily the workpieces as the user's desire, thereby enhancing its cutting ability and preventing the crushed chips from dispersing in the air and from causing the bad affects to the user's health and contamination of environment.

The features of the abrasive cutting tool disclosed in the reference (GB 1010318) is to be simply made and to continuously cut workpieces till all the abrasive has worn away without loss of gauge. For this, as shown in Figures 1 to 7, the abrasive cutting tool include a body (or a tube) 30 and a cutting zone 32 formed on a periphery of the body 30, the cutting zone is sinuously corrugated in shape with respect to the direction of the cutting edge 12 and has an adherent layer of abrasive particles 18 applied onto each side 14 of the cutting zone in the cutting direction. Namely, the corrugation extends across the full width of the cutting zone and its variation width is determined such that the width of cut is wider than that of the body 30.

The GB reference requires corrugated or undulating sides and does not have diamond layers which are longitudinally disposed parallel with the rotation direction of the wheel body. The claims as presented clearly require opposing parallel diamond layers which are not taught by the cited reference. That reference requires undulations such that the desired thickness of cut can be made without "loss of gauge." Therefore, the abrasive cutting tool of GB 1010318 does not form any microscopic grooves within the workpieces by the adherent layers abrasive particles, thereby cannot form any protrude between the adherent layers. Therefore, it cannot be appreciated that the abrasive cutting tool crushes the workpieces when machining. Since the invention as claimed requires parallel spaced layers, the reference does not anticipate the claims and must be withdrawn.

5. In the Final Office Action claims 4-6 were rejected under 35 U.S.C. § 103(a) as being obvious over GB 1010318.

As noted above, the GB reference teaches and requires a cutting tool in which an undulating edge is presented in which diamond particles are secured. The undulations prevent a loss of gauge and keep the saw "rigid and robust while keeping the cutting zone thin, since the cutting zone is strengthened by reason of the deformation." (Column 2, line 90 to column 3, line 4). The claims at issue require parallel diamond layers separated by a non-diamond layer to crush portions that are broken off by rotational impact with the non-diamond portion. The cited reference not only requires undulations or corrugations but notes that the the area between the

undulations may be coated, clearly failing to teach or suggest that there may be an advantage in the construction as claimed.

The GB reference requires a very different construction and nothing from the reference would suggest doing away with its corrugations. The rejection is respectfully traversed.

Formalities

If an extension of time is required to make this response timely and if no separate petition is enclosed, Applicant hereby petitions for an extension of time sufficient to make the response timely. In the event that this response requires the payment of government fees and payment is not enclosed, please charge Deposit Account No. 22-0350.

Conclusion

In view of the foregoing it is believed that the present application, with claims 1, 4 and 7 is in condition for allowance. Applicant respectfully requests that the Amendment be considered and the rejections withdrawn. Early action to that effect is earnestly solicited.

Respectfully submitted,

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